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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/729,087	12/05/2003	Phillip A. Bishop	I-24423	8837

46582 7590 12/07/2006

MACMILLAN, SOBANSKI & TODD, LLC  
ONE MARITIME PLAZA - FOURTH FLOOR  
720 WATER STREET  
TOLEDO, OH 43604

EXAMINER

JOHNSON, MATTHEW A

ART UNIT	PAPER NUMBER
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3682

DATE MAILED: 12/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/729,087

Applicant(s)

BISHOP, PHILLIP A.

Examiner

Matthew Johnson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 31 October 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 December 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>3/02/2004</u> .   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election without traverse of Species II in the reply filed on 10/31/2006 is acknowledged.

### ***Specification***

3. The disclosure is objected to because of the following informalities:

[0033] "materials" should read --material--

[0037] "seal 318" should read --seal 319--

Appropriate correction is required.

### ***Claim Objections***

4. Claims 4,5 are objected to because of the following informalities:

Re clm 4,16: It appears the term "engaging" should read -- engages --.

Re clm 5,16: It appears that -- of -- should be inserted in the phrase "said inner surface said bore".

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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5. Claims 4,5,15,16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Re clms 4,5,15,16: The term "substantially" renders the claims vague and indefinite.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1,3-5,7,12-16,18 as best understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Kiyooka et al. (USP-5,058,448).

Re clms 1,4,5: Kiyooka discloses a yoke assembly comprising a yoke housing (12) having a bore (18) defining an inner surface, a bearing (21) disposed in said bore and defining an outer surface, a ring (22) disposed in said bore, said ring including an inner contact surface and an outer contact surface (See Figure 1), said inner contact surface engaging at least a portion of said inner surface of said bore and said outer contact surface engaging at least a portion of said outer surface of said bearing (See Figure 1).

Re clm 3: The examiner notes that this is a product by process claim that is not given patentable weight (See MPEP 2113 [R-1]).

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Re clm 7: Kiyooka discloses yoke assembly comprising wherein the ring (22) is disposed in said bore in a press fit engagement (Figure 1).

Re clm 12: Kiyooka discloses a rack and pinion steering gear assembly for a vehicle comprising a housing (1) having a pinion chamber (near 6) and a bearing chamber (near 20), said bearing chamber having a bore (18) defining an inner surface, an axially movable rack (7) supported in said bearing chamber, a pinion (6) supported in said pinion chamber and adapted to be in meshing engagement with said rack, a bearing (21) disposed in said bore, said bearing defining an outer surface, a ring (22) disposed in said bore having an inner contact surface and an outer contact surface (See Figure 1), said inner contact surface engaging at least a portion of said inner surface of said bore and said outer contact surface engaging at least a portion of said outer surface of said bearing (See Figure 1).

Re clm 13: Kiyooka discloses a yoke assembly comprising a cover (10) attached to said housing, a spring (13) carried by said bearing, and a seal (42) disposed in said bearing chamber.

Re clm 14: The examiner notes that this is a product by process claim that is not given patentable weight (See MPEP 2113 [R-1]).

Re clm 15: Kiyooka discloses a rack and pinion steering gear assembly wherein said outer contact surface of the ring (22) engages said outer surface of said bearing (21) along substantially and entire length thereof (Figure 1).

Re clm 16: Kiyooka discloses a rack and pinion steering gear assembly wherein said inner contact surface engages selected spaced apart portions of said inner inner

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surface of said bore and said outer contact surface engaging a substantial portion of said outer surface of bearing (Figure 1).

Re clm 18: Kiyooka discloses a rack and pinion steering gear assembly wherein the ring (22) is disposed in said bore in a press fit engagement (Figure 1).

8. Claims 1,8,9,12,19,20, as best understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Phillips (USP-5,845,532).

Re clm 1: Phillips discloses a yoke assembly comprising a yoke housing (30) having a bore (110) defining an inner surface, a bearing (96) disposed in said bore and defining an outer surface, a ring (104) disposed in said bore, said ring including an inner contact surface and an outer contact surface (See Figure 6), said inner contact surface engaging at least a portion of said inner surface of said bore and said outer contact surface engaging at least a portion of said outer surface of said bearing (See Figure 1).

Re clm 8: Phillips discloses (Figure 6) a yoke assembly wherein the bore (110) includes at least one surface feature (near 96) that retains a ring (104) in a predetermined position within said bore.

Re clm 9: Phillips discloses a yoke assembly wherein the bore (110) includes at least one groove (near 96) formed therein that retains a ring (104) in a predetermined position within said bore.

Re clm 12: Phillips discloses a rack and pinion steering gear assembly for a vehicle comprising a housing (10) having a pinion chamber (12) and a bearing chamber (30), said bearing chamber having a bore (84) defining an inner surface, an axially movable rack (24) supported in said bearing chamber, a pinion (20) supported in said

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pinion chamber and adapted to be in meshing engagement with said rack, a bearing (96) disposed in said bore, said bearing defining an outer surface, a ring (104) disposed in said bore having an inner contact surface and an outer contact surface (See Figure 6), said inner contact surface engaging at least a portion of said inner surface of said bore and said outer contact surface engaging at least a portion of said outer surface of said bearing.

Re clm 19: Phillips discloses a yoke assembly wherein the bore (110) includes at least one groove (near 96) formed therein that retains a ring (104) in a predetermined position within said bore.

Re clm 20: Phillips discloses a yoke assembly wherein the bore (110) includes at least one groove (near 96) formed therein that retains a ring (104) in a predetermined position within said bore.

***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 2,10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kiyooka et al (USP-5,058,448) in view of Harer et al (USP-6,591,706).

Re clm 2: Kiyooka discloses all of the claimed subject matter as described above.

While Kiyooka does indeed disclose a yoke assembly comprising a cover (10) attached to said yoke housing, a spring (13) carried by the yoke assembly and a seal (42), he does not disclose the seal disposed between the cover and the yoke housing.

Harer teaches a seal (72) disposed between a cover (42) and the yoke housing (12) for the purpose of sealing the cover against the yoke housing (C4 L27-32).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to dispose a seal between the cover and the yoke housing, as taught by Harer for the purpose of sealing the cover against the yoke housing (C4 L27-32).

Re clm 10: Kiyooka discloses a yoke assembly comprising a yoke housing (12) having a bore (18) defining an inner surface, a bearing (21) disposed in said bore and defining an outer surface, a ring (22) disposed in said bore, said ring including an inner contact surface and an outer contact surface (See Figure 1), said inner contact surface engaging at least a portion of said inner surface of said bore and said outer contact surface engaging at least a portion of said outer surface of said bearing (See Figure 1), a cover (10) attached to said yoke housing, a spring (13) carried by the yoke assembly and a seal (42).

Kiyooka does not disclose the seal disposed between the cover and the yoke housing.

Harer teaches a seal (72) disposed between a cover (42) and the yoke housing (12) for the purpose of sealing the cover against the yoke housing (C4 L27-32).



It would have been obvious to a person of ordinary skill in the art at the time the invention was made to dispose a seal between the cover and the yoke housing, as taught by Harer for the purpose of sealing the cover against the yoke housing (C4 L27-32).

11. Claims 6, 11, 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kiyooka et al (USP-5,058,448) in view of Phillips (USP-5,845,532).

Re clms 6, 11, 17: Kiyooka discloses all of the claimed subject matter as described above.

While Kiyooka does indeed disclose a ring (22) having a hollow generally cylindrical shape including a main body portion and a pair of opposed ends, he does not disclose the pair of opposed ends having a diameter greater than the diameter of the main body portion.

Phillips teaches (Figure 6) a yoke assembly comprising a ring (104) having a main body portion and a pair of opposed ends (106a, 106b Note: each protrusion has two ends) defining a diameter greater than the diameter of the main body portion for the purpose of providing a substantial increase in yaw stiffness for the bearing disc (96).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to employ a ring having opposed ends with a diameter greater than the main body portion, as taught by Phillips, in the device of Kiyooka for the purpose of providing a substantial increase in yaw stiffness for the bearing ring.

**Conclusion**

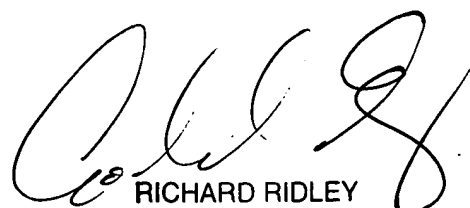
12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew Johnson whose telephone number is 571-272-6917. The examiner can normally be reached on Monday - Friday 8:30a.m. - 5:00p.m. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Ridley can be reached on 571-272-6917. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MAJ

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RICHARD RIDLEY  
SUPERVISORY PATENT EXAMINER